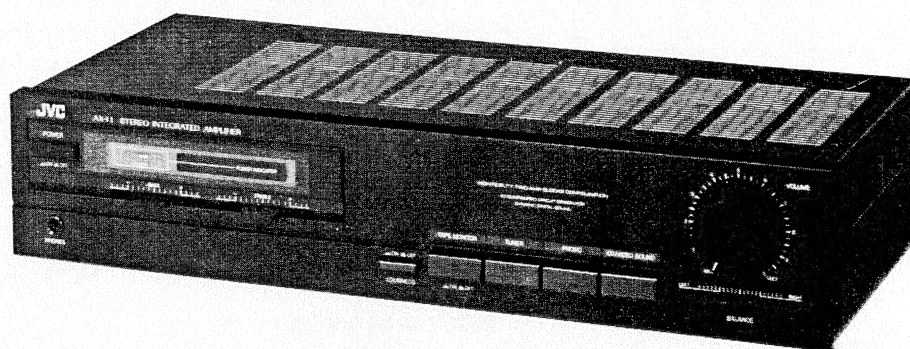


# JVC

## SERVICE MANUAL

### STEREO INTEGRATED AMPLIFIER

MODEL No. **AX-11BK**



## Contents

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This manual combines two single volumes; Service manual and Parts list.

No. 2924  
Apr. 1986

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# Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes.  
For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of the service manual. Electrical components having such features are identified by shading on the schematics and by (  $\Delta$  ) on the parts list in the service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in the service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.  
When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check  
(Electrical shock hazard testing)  
After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the pro-

duct is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).

- Alternate check method.

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a  $1500\Omega$  10W resistor paralleled by a  $0.15\mu\text{F}$  AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.).

This corresponds to 0.5 mA AC (r.m.s.).

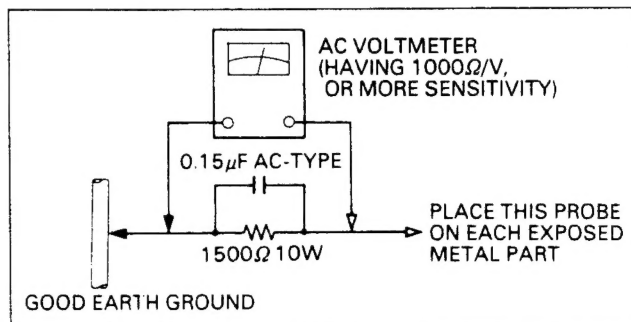
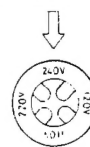


Fig. 1

## CHECKING YOUR LINE VOLTAGE (Except for U.S.A., Canada, U.K., Continual Europe and Australia)

Before inserting the power plug, please check this setting to see that it corresponds with the line voltage in your area. If it doesn't be sure to adjust the voltage selector switch to the proper setting before operating this equipment. The voltage selector switch is located on the rear panel.

**CAUTION:** Before setting the "Voltage selector switch" to the proper voltage, disconnect the power plug.



# Removal and Reassembly Procedures

## ■ Removal of the Main P.C. Board

1. Remove the metal cover.
2. Remove screws ① and ② on the P.C. board

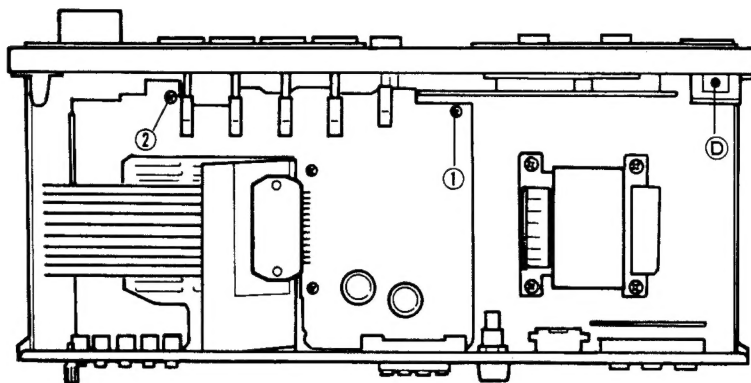


Fig. 2

3. Remove screws ③ ~ ⑧ on the rear panel shown in Fig. 3.

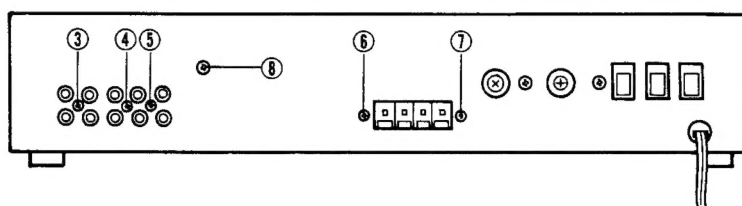


Fig. 3

4. Remove screws ⑨ ~ ⑫ and plastic rivet ④ to set the front panel free. (Fig. 2, Fig. 4)
5. Remove screws ⑨ ~ ⑫ on the bottom side shown in Fig. 4.

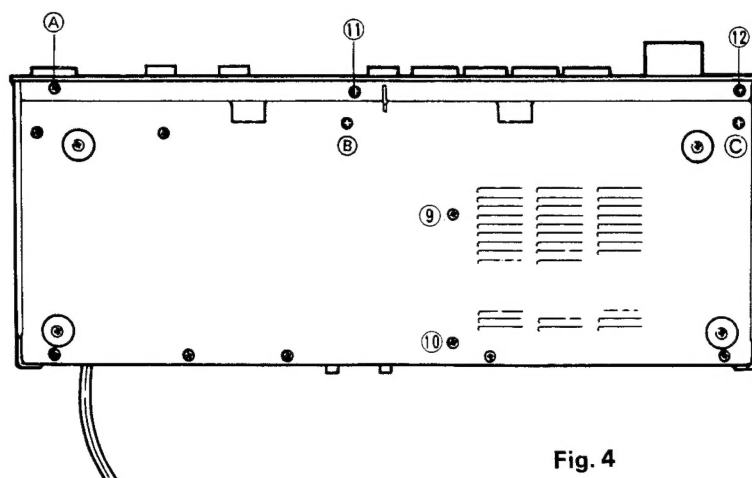
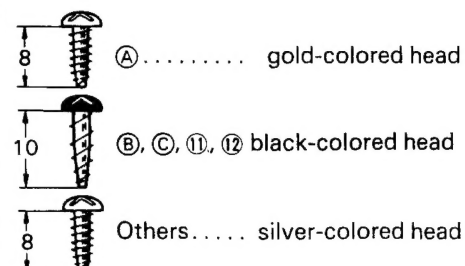


Fig. 4

### Note:

As three types of fixing screw are used for the base, make sure the screws are correct when reinstalling.



6. Slightly pull the front panel forward to raise the P.C. board as shown in Fig. 5.

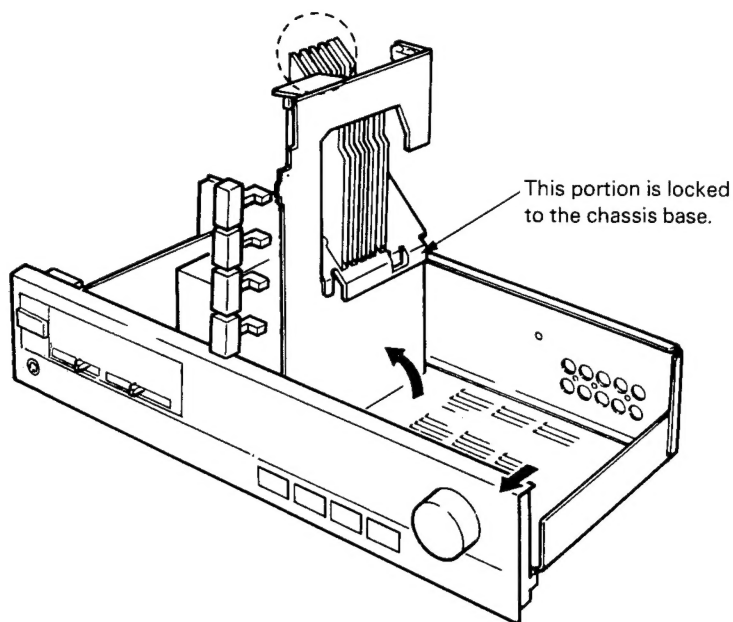

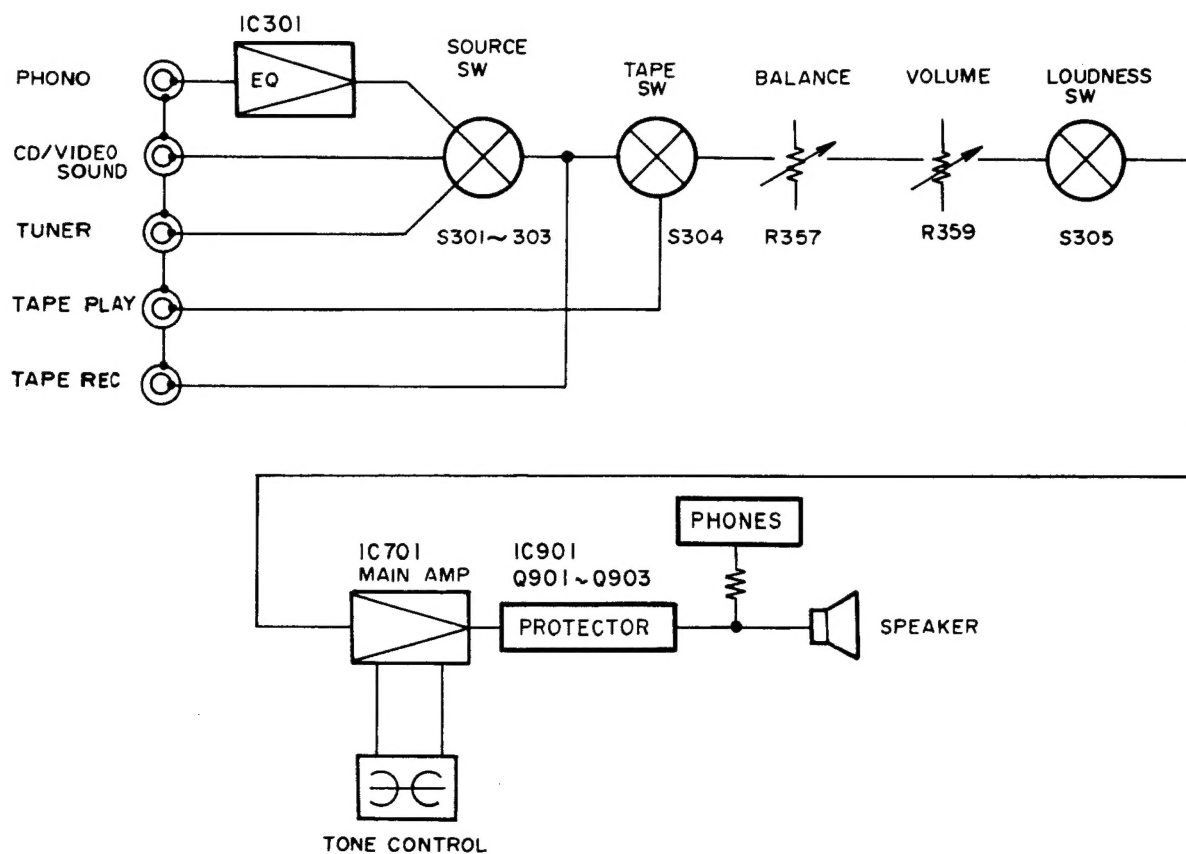


Fig. 5

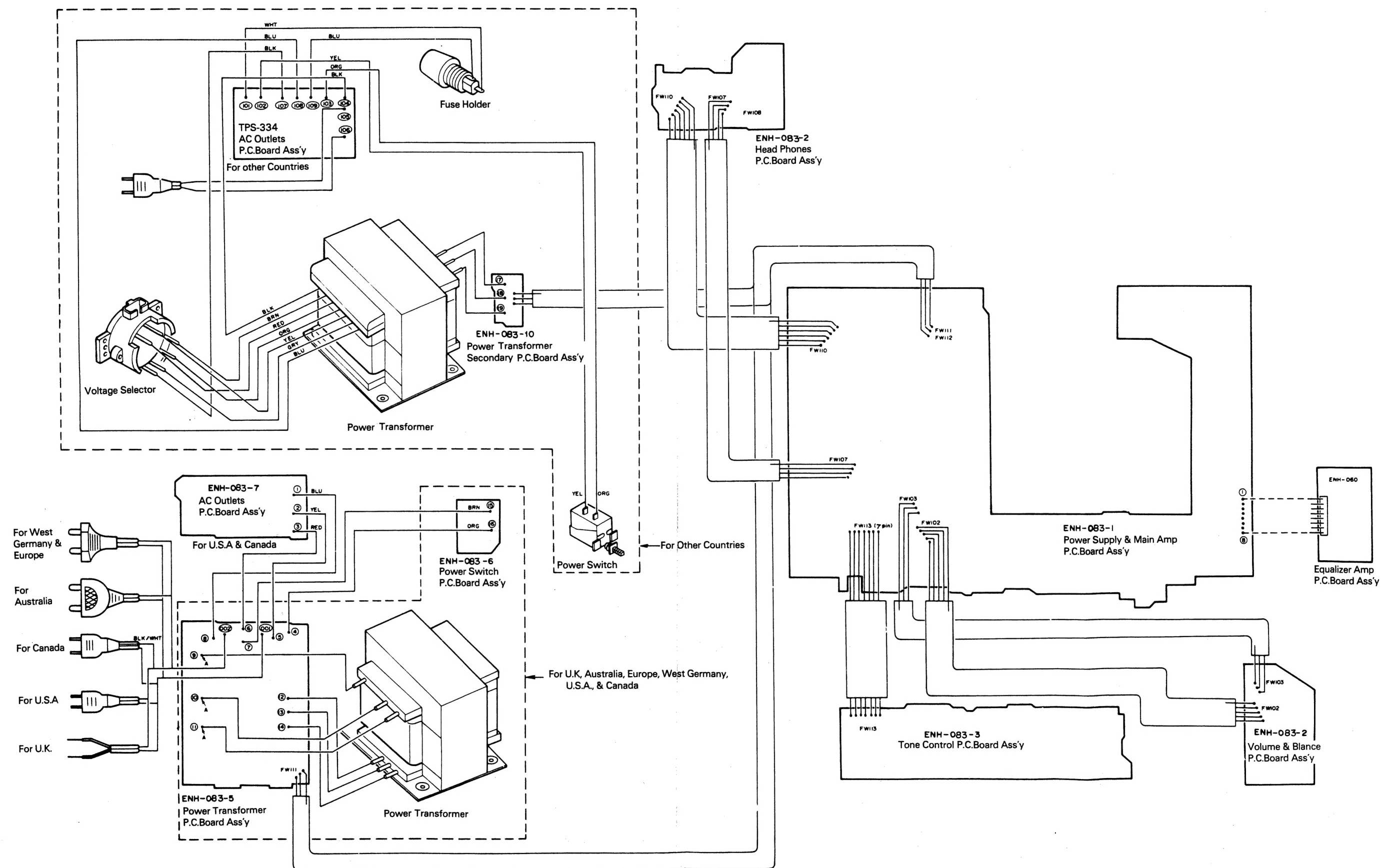
**Note:** Care should be taken not to deform the part of the heat sink indicated by  when pulling out the P.C. board. Otherwise, it may result in reducing the efficiency of heat dissipation.

## Block diagram

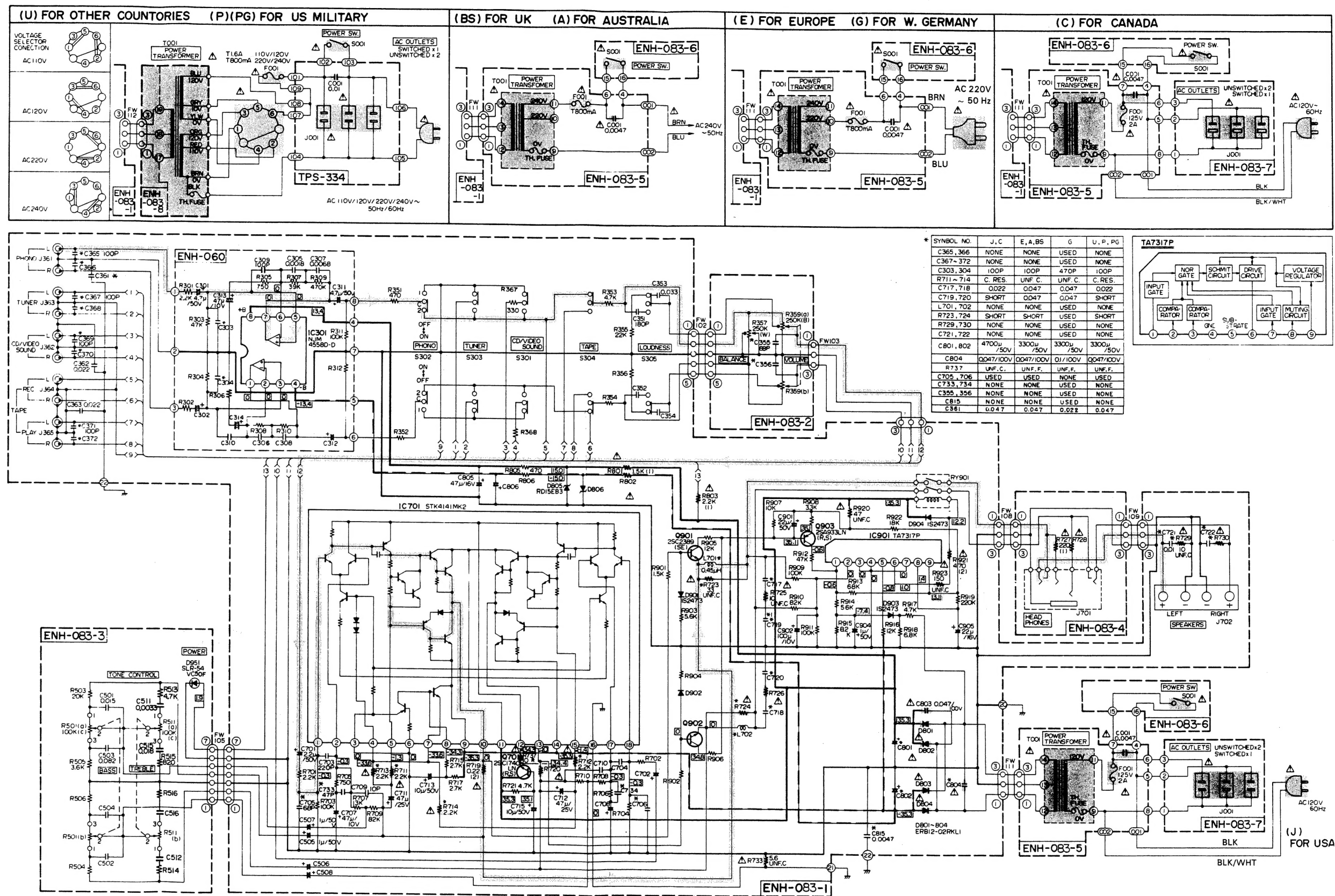




# Connection Diagram



## Schematic Diagram



## Notes:

- indicates positive B power supply.
- - - indicates negative B power supply.
- indicates signal path.
- shows DC voltage to the chassis with no signal input.
- When replacing the parts in the darkened area ( ) and those marked with  $\Delta$ , be sure to use the designated parts to ensure safety.
- This is the standard circuit diagram.  
The design and contents are subject to change without notice.

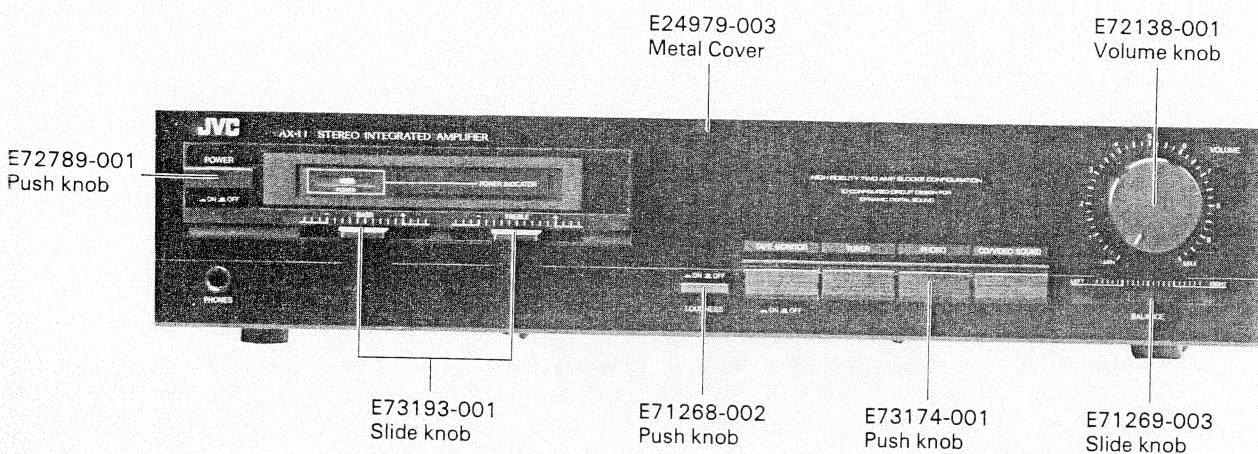
# PARTS LIST

## Contents

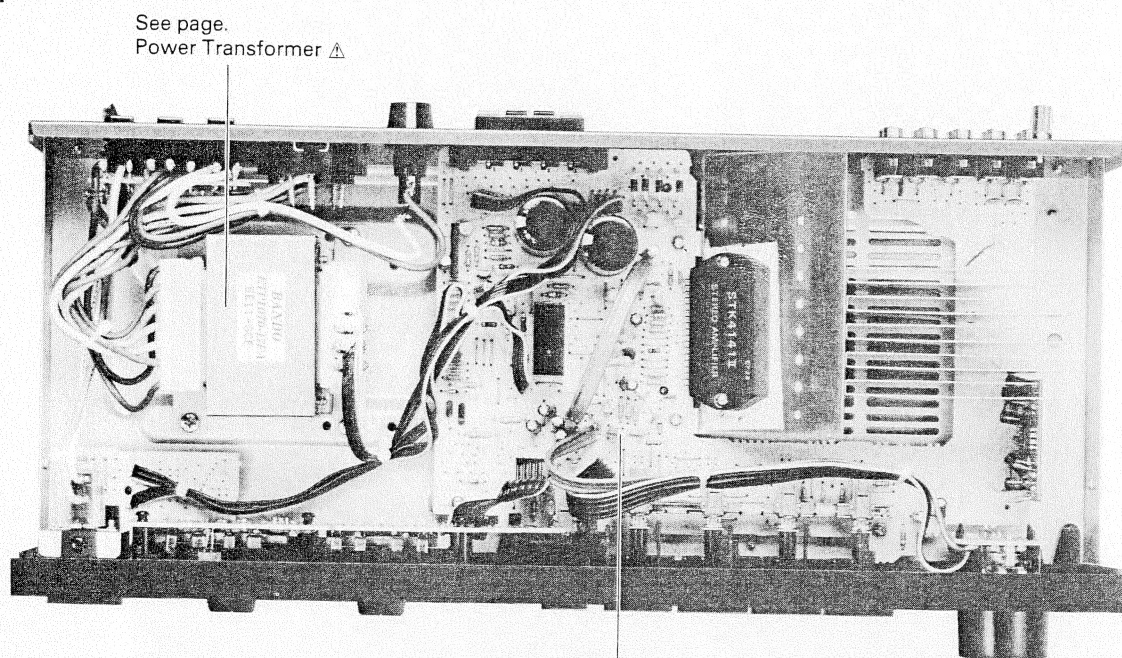
|   |      |
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# Main Parts Location

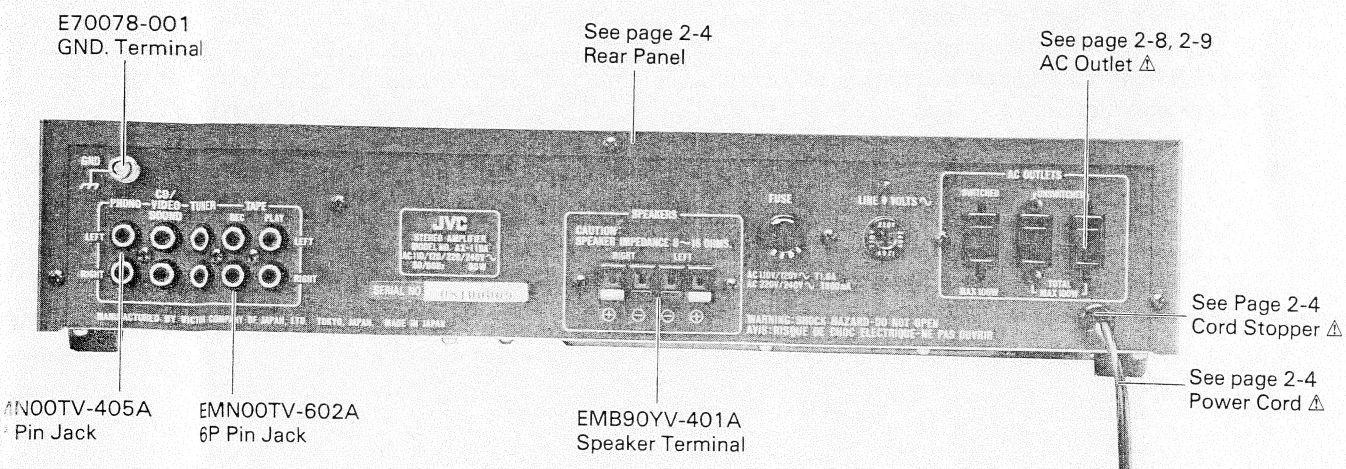
## Front View



## Top View



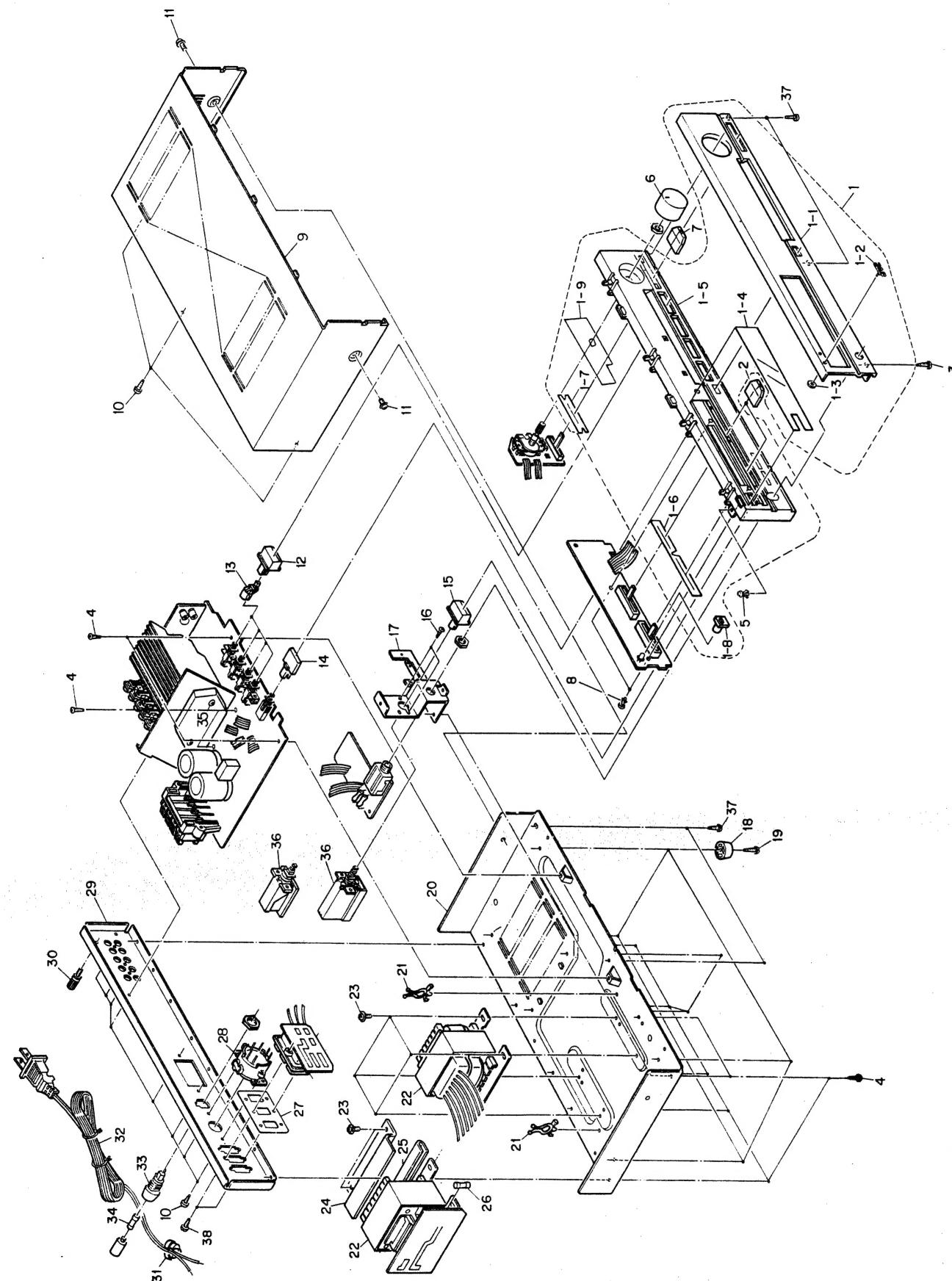
## Rear View



$\Delta$  : Safety Parts



# Exploded View and Part List



## Parts List

| Item No. | Part Number    | Part Name         | Q'ty | Description | Areas       |
|----------|----------------|-------------------|------|-------------|-------------|
| 1        | EFP-AX11BKE    | Front Panel Ass'y | 1    |             |             |
| 1-1      | E25348-002     | Front Panel       | 1    |             |             |
| 1-2      | E72968-001     | JVC Mark          | 1    |             |             |
| 1-3      | E60912-003     | Speed Nut         | 1    |             |             |
| 1-4      | E304234-002    | Screen            | 1    |             |             |
| 1-5      | E11298-002     | Front Base        | 1    |             |             |
| 1-6      | E73176-001     | Felt Spacer       | 1    |             |             |
| 1-7      | E72142-002     | Felt Spacer       | 1    |             |             |
| 1-8      | E72153-001     | Indicator         | 1    |             |             |
| 1-9      | E72353-001     | Sheet             | 1    |             |             |
| 2        | E73193-001     | Slide Knob        | 2    |             |             |
| 3        | SBSB3008Z      | Screw             | 1    |             |             |
| 4        | SBSB3008N      | Screw             | 11   |             |             |
| 5        | E48729-009     | Plastic Rivet     | 1    |             |             |
| 6        | E72138-001     | Volume Knob       | 1    |             |             |
| 7        | E71269-003     | Slide Knob        | 1    |             |             |
| 8        | E48729-007     | Plastic Rivet     | 3    |             |             |
| 9        | E24979-003     | Metal Cover       | 1    |             |             |
| 10       | SBSB3008M      | Screw             | 13   |             |             |
| 11       | E61660-004     | Screw             | 2    |             |             |
| 12       | E73174-001     | Push Knob         | 4    |             |             |
| 13       | E71235-001     | Push Shaft        | 4    |             |             |
| 14       | E71268-002     | Push Knob         | 1    |             |             |
| 15       | E72789-001     | Push Knob         | 1    |             |             |
| 16       | SBST3006Z      | Screw             | 2    |             |             |
| 17       | E304233-002    | Bracket           | 1    |             |             |
| 18       | E47227-012     | Foot              | 4    |             |             |
| 19       | SBSB3010N      | Screw             | 4    |             |             |
| 20       | E11117-002     | Chassis Base      | 1    |             |             |
| 21       | QHW2052-001    | Wire Clamp        | 2    |             |             |
| 22       | ETP1070-17JA   | Power Transformer | 1    |             | J, C        |
| 22       | ETP1070-17FA   | Power Transformer | 1    |             | U, P, PG    |
| 22       | ETP1070-17EA   | Power Transformer | 1    |             | E, A, G     |
| 22       | ETP1070-17EABS | Power Transformer | 1    |             | BS          |
| 23       | E65389-002     | Screw             | 4    |             |             |
| 24       | E72347-001     | Bracket           | 1    |             | J, C        |
| 25       | E72352-001     | Spacer            | 1    |             | J, C        |
| 26       | QMF51U1-2R0    | Fuse              | 1    |             | J, C        |
| 26       | QMF51A2-R80S   | Fuse              | 1    |             |             |
| 26       | QMF51E2-R80SBS | Fuse              | 1    |             | BS          |
| 27       | E69589-010     | Spacer            | 1    |             | J           |
| 28       | QSR0085-008U   | Voltage Selector  | 1    |             | U, P, PG    |
| 29       | E24977-023     | Rear Panel        | 1    |             | J, C        |
| 29       | E24977-024     | Rear Panel        | 1    |             | E, A, G, BS |
| 29       | E24977-025     | Rear Panel        | 1    |             | U, P, PG    |
| 30       | E70078-001     | GND. Terminal     | 1    |             |             |
| 31       | QHS3876-162    | Cord Stopper      | 1    |             | Except BS   |
| 31       | QHS3876-162BS  | Cord Stopper      | 1    |             | BS          |
| 32       | QMP1340-200    | Power Cord        | 1    |             | C, J        |
| 32       | QMP7600-200    | Power Cord        | 1    |             | U, P, PG    |
| 33       | QMP3900-200    | Power Cord        | 1    |             | E, G        |
| 33       | QMP2560-244    | Power Cord        | 1    |             | A           |
| 33       | QMP9017-008BS  | Power Cord        | 1    |             | U, P, PG    |
| 33       | QMG0301-003    | Fuse Holder       | 1    |             | U, P, PG    |
| 34       | QMF51A2-R80S   | Fuse              | 1    |             | U, PG       |



## TRANSISTOR

| TRANSISTOR |                |             |      |      |
|------------|----------------|-------------|------|------|
| ITEM       | PART NUMBER    | DESCRIPTION |      | AREA |
|            |                | MAKER       |      |      |
| Q701       | 2SC1740LN(R,S) | SILICON     | ROHM |      |
| Q901       | 2SC2389(S,E)   | SILICON     | ROHM |      |
| Q902       | 2SC2389(S,E)   | SILICON     | ROHM |      |
| Q903       | 2SA933LN(R,S)  | SILICON     | ROHM |      |

△ : SAFETY PARTS

## I. C. S

| ITEM  | PART NUMBER | DESCRIPTION |         | AREA |
|-------|-------------|-------------|---------|------|
|       |             | MAKER       |         |      |
| IC701 | STK4141MK2  | I.C.        | SANYO   |      |
| IC901 | TA7317P     | I.C.        | TOSHIBA |      |

△ : SAFETY PARTS

## DIODES

| P I C K E T S |      |                |             |       |      |
|---------------|------|----------------|-------------|-------|------|
| △             | ITEM | PART NUMBER    | DESCRIPTION |       | AREA |
|               |      |                |             | MAKER |      |
|               | D801 | ERB12-02RKL1   | SILICON     |       |      |
|               | D802 | ERB12-02RKL1   | SILICON     |       |      |
|               | D803 | ERB12-02RKL1   | SILICON     |       |      |
|               | D804 | ERB12-02RKL1   | SILICON     |       |      |
|               | D805 | RD15EB3        | ZENER       | NEC   |      |
|               | D806 | RD15EB3        | ZENER       | NEC   |      |
|               | D901 | 1S2473         | SILICON     | ROHM  |      |
|               | D902 | 1S2473         | SILICON     | ROHM  |      |
|               | D903 | 1S2473         | SILICON     | ROHM  |      |
|               | D904 | 1S2473         | SILICON     | ROHM  |      |
|               | D951 | SLR-54VC50F165 | L.E.D.      | ROHM  |      |

△ : SAFETY PARTS

## CAPACITORS

| △ | ITEM | PART NUMBER | DESCRIPTION |             | AREA |
|---|------|-------------|-------------|-------------|------|
|   | C001 | QCZ9019-472 | 4700PF      | CERAMIC     | B    |
|   | C001 | QCZ9019-472 | 4700PF      | CERAMIC     | E    |
|   | C001 | QCZ9019-472 | 4700PF      | CERAMIC     | FBS  |
|   | C001 | QCZ9019-472 | 4700PF      | CERAMIC     | G    |
|   | C001 | QCZ9019-472 | 4700PF      | CERAMIC     | H    |
|   | C351 | QCS21HJ-181 | 180PF       | 50V CERAMIC |      |
|   | C352 | QCS21HJ-181 | 180PF       | 50V CERAMIC |      |
|   | C353 | QFN81HK-333 | 0.033MF     | 50V MYLAR   |      |
|   | C354 | QFN81HK-333 | 0.033MF     | 50V MYLAR   |      |
|   | C355 | QCS21HJ-680 | 68PF        | 50V CERAMIC | H    |
|   | C356 | QCS21HJ-680 | 68PF        | 50V CERAMIC | H    |
|   | C361 | QCF21HP-223 | 0.022MF     | 50V CERAMIC | H    |
|   | C361 | QCF21HP-473 | 0.047MF     | 50V CERAMIC | B    |
|   | C361 | QCF21HP-473 | 0.047MF     | 50V CERAMIC | C    |
|   | C361 | QCF21HP-473 | 0.047MF     | 50V CERAMIC | E    |
|   | C361 | QCF21HP-473 | 0.047MF     | 50V CERAMIC | FBS  |
|   | C361 | QCF21HP-473 | 0.047MF     | 50V CERAMIC | G    |
|   | C362 | QCF21HP-223 | 0.022MF     | 50V CERAMIC |      |
|   | C363 | QCF21HP-223 | 0.022MF     | 50V CERAMIC |      |
|   | C365 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C366 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C367 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C368 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C369 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C370 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C371 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C372 | QCS21HJ-101 | 100PF       | 50V CERAMIC | H    |
|   | C501 | QFN81HK-153 | 0.015MF     | 50V MYLAR   |      |
|   | C502 | QFN81HK-153 | 0.015MF     | 50V MYLAR   |      |
|   | C503 | QFN81HK-823 | 0.082MF     | 50V MYLAR   |      |
|   | C504 | QFN81HK-823 | 0.082MF     | 50V MYLAR   |      |
|   | C505 | QETB1HM-105 | 1MF         | 50V ELECTRO |      |
|   | C506 | QETB1HM-105 | 1MF         | 50V ELECTRO |      |
|   | C507 | QETB1HM-105 | 1MF         | 50V ELECTRO |      |
|   | C508 | QETB1HM-105 | 1MF         | 50V ELECTRO |      |

△ : SAFETY PARTS

## CAPACITORS

| CAPACITORS |      |             |             |              |      |
|------------|------|-------------|-------------|--------------|------|
| Δ          | ITEM | PART NUMBER | DESCRIPTION |              | AREA |
|            | C511 | QFN81HK-332 | 3300PF      | 50V MYLAR    |      |
|            | C512 | QFN81HK-332 | 3300PF      | 50V MYLAR    |      |
|            | C515 | QFN81HK-183 | 0.018MF     | 50V MYLAR    |      |
|            | C516 | QFN81HK-183 | 0.018MF     | 50V MYLAR    |      |
|            | C701 | QETB1HM-225 | 2.2MF       | 50V ELECTRO  |      |
|            | C702 | QETB1HM-225 | 2.2MF       | 50V ELECTRO  |      |
|            | C703 | QCS21HJ-221 | 220PF       | 50V CERAMIC  |      |
|            | C704 | QCS21HJ-221 | 220PF       | 50V CERAMIC  |      |
|            | C705 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | B    |
|            | C705 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | C    |
|            | C705 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | E    |
|            | C705 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | FBS  |
|            | C706 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | G    |
|            | C706 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | B    |
|            | C706 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | C    |
|            | C706 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | E    |
|            | C706 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | FBS  |
|            | C706 | QCS21HJ-680 | 68PF        | 50V CERAMIC  | G    |
|            | C707 | QETB1AM-476 | 47MF        | 10V ELECTRO  |      |
|            | C708 | QETB1AM-476 | 47MF        | 10V ELECTRO  |      |
|            | C709 | QCS21HJ-100 | 10PF        | 50V CERAMIC  |      |
|            | C710 | QCS21HJ-100 | 10PF        | 50V CERAMIC  |      |
|            | C711 | QETB1EM-476 | 47MF        | 25V ELECTRO  |      |
|            | C712 | QETB1EM-476 | 47MF        | 25V ELECTRO  |      |
|            | C713 | QETB1HM-106 | 10MF        | 50V ELECTRO  |      |
|            | C715 | QETB1HM-106 | 10MF        | 50V ELECTRO  |      |
|            | C717 | QFN81HK-223 | 0.022MF     | 50V MYLAR    | B    |
|            | C717 | QFN81HK-223 | 0.022MF     | 50V MYLAR    | C    |
|            | C717 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | E    |
|            | C717 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | FBS  |
|            | C717 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | G    |
|            | C717 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | H    |
|            | C718 | QFN81HK-223 | 0.022MF     | 50V MYLAR    | B    |
|            | C718 | QFN81HK-223 | 0.022MF     | 50V MYLAR    | C    |
|            | C718 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | E    |
|            | C718 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | FBS  |
|            | C718 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | G    |
|            | C718 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | H    |
|            | C719 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | E    |
|            | C719 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | FBS  |
|            | C719 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | G    |
|            | C719 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | H    |
|            | C720 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | E    |
|            | C720 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | FBS  |
|            | C720 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | G    |
|            | C720 | QFN81HK-473 | 0.047MF     | 50V MYLAR    | H    |
|            | C721 | QFN81HK-103 | 0.01MF      | 50V MYLAR    | H    |
|            | C722 | QFN81HK-103 | 0.01MF      | 50V MYLAR    | H    |
|            | C733 | QCS21HJ-470 | 47PF        | 50V CERAMIC  | H    |
|            | C734 | QCS21HJ-470 | 47PF        | 50V CERAMIC  | H    |
|            | C801 | QE20061-478 | 4700MF      | 50V NON POLE | B    |
|            | C801 | QE20072-338 | 3300MF      | 50V NON POLE | C    |
|            | C801 | QE20072-338 | 3300MF      | 50V NON POLE | E    |
|            | C801 | QE20072-338 | 3300MF      | 50V NON POLE | FBS  |
|            | C801 | QE20072-338 | 3300MF      | 50V NON POLE | G    |
|            | C801 | QE20072-338 | 3300MF      | 50V NON POLE | H    |
|            | C802 | QE20061-478 | 4700MF      | 50V NON POLE | B    |
|            | C802 | QE20072-338 | 3300MF      | 50V NON POLE | C    |
|            | C802 | QE20072-338 | 3300MF      | 50V NON POLE | E    |
|            | C802 | QE20072-338 | 3300MF      | 50V NON POLE | FBS  |
|            | C802 | QE20072-338 | 3300MF      | 50V NON POLE | G    |
|            | C802 | QE20072-338 | 3300MF      | 50V NON POLE | H    |
|            | C803 | QFM82AK-473 | 0.047MF     | 100V MYLAR   | B    |
|            | C804 | QFM82AK-104 | 0.1MF       | 100V MYLAR   | H    |
|            | C804 | QFM82AK-473 | 0.047MF     | 100V MYLAR   | B    |
|            | C804 | QFM82AK-473 | 0.047MF     | 100V MYLAR   | C    |
|            | C804 | QFM82AK-473 | 0.047MF     | 100V MYLAR   | E    |
|            | C804 | QFM82AK-473 | 0.047MF     | 100V MYLAR   | FBS  |
|            | C805 | QETB1CM-476 | 47MF        | 16V ELECTRO  | G    |
|            | C806 | QETB1CM-476 | 47MF        | 16V ELECTRO  |      |
|            | C815 | QCY21HK-472 | 4700PF      | 50V CERAMIC  | H    |
|            | C901 | QETB1HM-226 | 22MF        | 50V ELECTRO  |      |
|            | C902 | QETB1AM-107 | 100MF       | 10V ELECTRO  |      |
|            | C904 | QETB1HM-105 | 1MF         | 50V ELECTRO  |      |
|            | C905 | QETB1CM-226 | 22MF        | 16V ELECTRO  |      |

△ : SAFETY PARTS



## RESISTORS

| △ | ITEM | PART NUMBER   | DESCRIPTION |      |            | AREA |
|---|------|---------------|-------------|------|------------|------|
|   | R351 | QRD148J-471S  | 470         | 1/4W | CARBON     |      |
|   | R352 | QRD148J-471S  | 470         | 1/4W | CARBON     |      |
|   | R353 | QRD148J-472S  | 4.7K        | 1/4W | CARBON     |      |
|   | R354 | QRD148J-472S  | 4.7K        | 1/4W | CARBON     |      |
|   | R355 | QRD148J-223S  | 22K         | 1/4W | CARBON     |      |
|   | R356 | QRD148J-223S  | 22K         | 1/4W | CARBON     |      |
|   | R357 | QVWA01W-EF5E  |             |      | VARIABLE   |      |
|   | R359 | QVN9A3B-5F5V  |             |      | VARIABLE   |      |
|   | R367 | QRD148J-151S  | 150         | 1/4W | CARBON     |      |
|   | R368 | QRD148J-151S  | 150         | 1/4W | CARBON     |      |
|   | R501 | QVUB01C-E15F  |             |      | VARIABLE   |      |
|   | R503 | QRD148J-203S  | 20K         | 1/4W | CARBON     |      |
|   | R504 | QRD148J-203S  | 20K         | 1/4W | CARBON     |      |
|   | R505 | QRD148J-362S  | 3.6K        | 1/4W | CARBON     |      |
|   | R506 | QRD148J-362S  | 3.6K        | 1/4W | CARBON     |      |
|   | R511 | QVUB01C-E15F  |             |      | VARIABLE   |      |
|   | R513 | QRD148J-472S  | 4.7K        | 1/4W | CARBON     |      |
|   | R514 | QRD148J-472S  | 4.7K        | 1/4W | CARBON     |      |
|   | R515 | QRD148J-821S  | 820         | 1/4W | CARBON     |      |
|   | R516 | QRD148J-821S  | 820         | 1/4W | CARBON     |      |
|   | R701 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     |      |
|   | R702 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     |      |
|   | R703 | QRD148J-104S  | 100K        | 1/4W | CARBON     |      |
|   | R704 | QRD148J-104S  | 100K        | 1/4W | CARBON     |      |
|   | R705 | QRD148J-751S  | 750         | 1/4W | CARBON     |      |
|   | R706 | QRD148J-751S  | 750         | 1/4W | CARBON     |      |
|   | R707 | QRD148J-133S  | 13K         | 1/4W | CARBON     |      |
|   | R708 | QRD148J-133S  | 13K         | 1/4W | CARBON     |      |
|   | R709 | QRD148J-823S  | 82K         | 1/4W | CARBON     |      |
|   | R710 | QRD148J-823S  | 82K         | 1/4W | CARBON     |      |
| △ | R711 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | E    |
| △ | R711 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | FBS  |
| △ | R711 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | G    |
| △ | R711 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | H    |
|   | R711 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | B    |
|   | R711 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | C    |
| △ | R712 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | E    |
| △ | R712 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | FBS  |
| △ | R712 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | G    |
| △ | R712 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | H    |
|   | R712 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | B    |
|   | R712 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | C    |
| △ | R713 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | E    |
| △ | R713 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | FBS  |
| △ | R713 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | G    |
| △ | R713 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | H    |
|   | R713 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | B    |
|   | R713 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | C    |
| △ | R714 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | E    |
| △ | R714 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | FBS  |
| △ | R714 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | G    |
| △ | R714 | QRD145J-222S  | 2.2K        | 1/4W | UNF.CARBON | H    |
|   | R714 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | B    |
|   | R714 | QRD148J-222S  | 2.2K        | 1/4W | CARBON     | C    |
|   | R715 | QRD148J-272S  | 2.7K        | 1/4W | CARBON     |      |
|   | R717 | QRD148J-272S  | 2.7K        | 1/4W | CARBON     |      |
| △ | R719 | QRX022J-R22AF | 0.22        | 2W   | M.FILM     |      |
| △ | R720 | QRX022J-R22AF | 0.22        | 2W   | M.FILM     |      |
|   | R721 | QRD148J-272S  | 2.7K        | 1/4W | CARBON     |      |
| △ | R723 | QRD145J-330S  | 33          | 1/4W | UNF.CARBON | H    |
| △ | R724 | QRD145J-330S  | 33          | 1/4W | UNF.CARBON | H    |
| △ | R725 | QRD145J-100S  | 10          | 1/4W | UNF.CARBON |      |
| △ | R726 | QRD145J-100S  | 10          | 1/4W | UNF.CARBON |      |
|   | R727 | QRG012J-221A  | 220         | 1W   | D.M.FILM   |      |
|   | R728 | QRG012J-221A  | 220         | 1W   | D.M.FILM   |      |
| △ | R729 | QRD145J-100S  | 10          | 1/4W | UNF.CARBON | H    |
| △ | R730 | QRD145J-100S  | 10          | 1/4W | UNF.CARBON | H    |
| △ | R733 | QRD145J-5R6S  | 5.6         | 1/4W | UNF.CARBON |      |
| △ | R737 | QRD145J-100S  | 10          | 1/4W | UNF.CARBON | B    |
| △ | R737 | QR10062-100   | 10          | 1/4W | FUSIBLE    | C    |
| △ | R737 | QR10062-100   | 10          | 1/4W | FUSIBLE    | E    |
| △ | R737 | QR10062-100   | 10          | 1/4W | FUSIBLE    | FBS  |
| △ | R737 | QR10062-100   | 10          | 1/4W | FUSIBLE    | G    |
| △ | R737 | QR10062-100   | 10          | 1/4W | FUSIBLE    | H    |
|   | R801 | QRG012J-152A  | 1.5K        | 1W   | D.M.FILM   |      |
|   | R802 | QRG012J-152A  | 1.5K        | 1W   | D.M.FILM   |      |
|   | R803 | QRG012J-222A  | 2.2K        | 1W   | D.M.FILM   |      |
|   | R805 | QRD148J-471S  | 470         | 1/4W | CARBON     |      |
|   | R806 | QRD148J-471S  | 470         | 1/4W | CARBON     |      |
|   | R901 | QRD148J-152S  | 1.5K        | 1/4W | CARBON     |      |

## RESISTORS

| △ | ITEM | PART NUMBER  | DESCRIPTION |      |            | AREA |
|---|------|--------------|-------------|------|------------|------|
|   | R902 | QRD148J-152S | 1.5K        | 1/4W | CARBON     |      |
|   | R903 | QRD148J-562S | 5.6K        | 1/4W | CARBON     |      |
|   | R904 | QRD148J-562S | 5.6K        | 1/4W | CARBON     |      |
|   | R905 | QRD148J-123S | 12K         | 1/4W | CARBON     |      |
|   | R906 | QRD148J-123S | 12K         | 1/4W | CARBON     |      |
|   | R907 | QRD148J-103S | 10K         | 1/4W | CARBON     |      |
|   | R908 | QRD148J-332S | 3.3K        | 1/4W | CARBON     |      |
|   | R909 | QRD148J-104S | 100K        | 1/4W | CARBON     |      |
|   | R910 | QRD148J-823S | 82K         | 1/4W | CARBON     |      |
|   | R911 | QRD148J-104S | 100K        | 1/4W | CARBON     |      |
|   | R912 | QRD148J-473S | 47K         | 1/4W | CARBON     |      |
|   | R913 | QRD148J-683S | 68K         | 1/4W | CARBON     |      |
|   | R914 | QRD148J-563S | 56K         | 1/4W | CARBON     |      |
|   | R915 | QRD148J-822S | 8.2K        | 1/4W | CARBON     |      |
|   | R916 | QRD148J-123S | 12K         | 1/4W | CARBON     |      |
|   | R917 | QRD148J-472S | 4.7K        | 1/4W | CARBON     |      |
|   | R918 | QRD148J-682S | 6.8K        | 1/4W | CARBON     |      |
|   | R919 | QRD148J-224S | 220K        | 1/4W | CARBON     |      |
| △ | R920 | QRD145J-470S | 47          | 1/4W | UNF.CARBON |      |
|   | R921 | QRG022J-471A | 470         | 2W   | D.M.FILM   |      |
| △ | R922 | QRD148J-183S | 18K         | 1/4W | CARBON     |      |
| △ | R923 | QRD145J-151S | 150         | 1/4W | UNF.CARBON |      |

△ : SAFETY PARTS

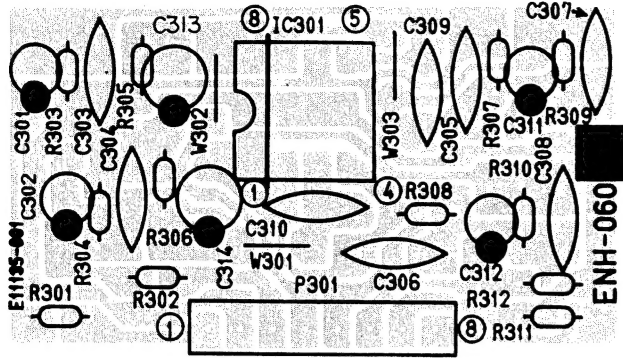
## OTHERS

| △ | ITEM  | PART NUMBER   | DESCRIPTION        |  |  | AREA |
|---|-------|---------------|--------------------|--|--|------|
|   |       | EMG7331-001   | FUSE CLIP          |  |  | B    |
|   |       | EMG7331-001   | FUSE CLIP          |  |  | E    |
|   |       | EMG7331-001   | FUSE CLIP          |  |  | FBS  |
|   |       | EMG7331-001   | FUSE CLIP          |  |  | G    |
|   |       | EMG7331-001   | FUSE CLIP          |  |  | H    |
|   |       | ENH-060A      | CIRCUIT BOARD ASSY |  |  | B    |
|   |       | ENH-060A      | CIRCUIT BOARD ASSY |  |  | C    |
|   |       | ENH-060A      | CIRCUIT BOARD ASSY |  |  | E    |
|   |       | ENH-060A      | CIRCUIT BOARD ASSY |  |  | FBS  |
|   |       | ENH-060A      | CIRCUIT BOARD ASSY |  |  | G    |
|   |       | ENH-060B      | CIRCUIT BOARD ASSY |  |  | H    |
|   |       | E11299-002    | CIRCUIT BOARD      |  |  | B    |
|   |       | E11299-002    | CIRCUIT BOARD      |  |  | C    |
|   |       | E11299-002    | CIRCUIT BOARD      |  |  | E    |
|   |       | E11299-002    | CIRCUIT BOARD      |  |  | G    |
|   |       | E11299-002    | CIRCUIT BOARD      |  |  | H    |
|   |       | E11299-002BS  | CIRCUIT BOARD      |  |  | FBS  |
|   |       | E33754-001    | TIE BAND           |  |  |      |
|   |       | E65508-002    | TAB                |  |  | B    |
|   |       | E65508-002    | TAB                |  |  | E    |
|   |       | E65508-002    | TAB                |  |  | FBS  |
|   |       | E65508-002    | TAB                |  |  | G    |
|   |       | E65508-002    | TAB                |  |  | H    |
|   |       | E70859-001    | EARTH PLATE        |  |  |      |
|   |       | E72257-001    | EARTH PLATE        |  |  |      |
|   | J001  | QMC0638-001   | AC SOCKET          |  |  | B    |
|   | J361  | EMN00TV-405A  | PIN JACK ASSY      |  |  |      |
|   | J362  | EMN00TV-405A  | PIN JACK ASSY      |  |  |      |
|   | J363  | EMN00TV-602A  | PIN JACK ASSY      |  |  |      |
|   | J364  | EMN00TV-602A  | PIN JACK ASSY      |  |  |      |
|   | J365  | EMN00TV-602A  | PIN JACK ASSY      |  |  |      |
|   | J701  | QMS6312-020   | JACK ASSY          |  |  |      |
|   | J702  | EMB90YV-401A  | SPEAKER TERMINAL   |  |  |      |
|   | L701  | EQL0001-R45   | INDUCTOR           |  |  | H    |
| △ | L702  | EQL0001-R45   | INDUCTOR           |  |  | H    |
| △ | S001  | QSP1106-004   | PUSH SWITCH        |  |  | B    |
| △ | S001  | QSP1106-004   | PUSH SWITCH        |  |  | E    |
| △ | S001  | QSP1106-004   | PUSH SWITCH        |  |  | G    |
| △ | S001  | QSP1106-004   | PUSH SWITCH        |  |  | H    |
| △ | S001  | QSP1106-004BS | PUSH SWITCH        |  |  | FBS  |
|   | S301  | QST94A2-E01   | PUSH SWITCH        |  |  |      |
|   | S302  | QST94A2-E01   | PUSH SWITCH        |  |  |      |
|   | S303  | QST94A2-E01   | PUSH SWITCH        |  |  |      |
|   | S304  | QST94A2-E01   | PUSH SWITCH        |  |  |      |
|   | S305  | QST9101-E07   | PUSH SWITCH        |  |  |      |
|   | RY901 | ESK5D24-218   | RELAY              |  |  |      |

△ : SAFETY PARTS

**ENH-060 Equalizer Module PC Board Ass'y**

Note: ENH-060 □ varies according to the areas employed. See note (1) when placing an order.

**Note (1)**

| P.C. Board Ass'y | Designated Areas        |
|------------------|-------------------------|
| ENH-060 <b>A</b> | Except for West Germany |
| ENH-060 <b>B</b> | West Germany            |

**ICs**

| Δ | Item No. | Part Number | Description | Areas |
|---|----------|-------------|-------------|-------|
|   |          |             | Maker       |       |
|   | IC301    | NJM4558D-D  | IC          | JRC   |

**Capacitors**

| Δ | Item No. | Part Number | Description        | Areas |
|---|----------|-------------|--------------------|-------|
|   |          |             |                    |       |
|   | C301     | QETC1HM-475 | 4.7μF 50V ELECTRO  | A     |
|   | C302     | QETC1HM-475 | 4.7μF 50V ELECTRO  |       |
|   | C303     | QCY31HK-101 | 100pF 50V CERAMIC  |       |
|   | C303     | QCY31HK-471 | 470pF 50V CERAMIC  |       |
|   | C304     | QCY31HK-101 | 100pF 50V CERAMIC  | A     |
|   | C304     | QCY31HK-471 | 470pF 50V CERAMIC  | B     |
|   | C305     | QCY31HK-182 | 1800pF 50V CERAMIC |       |
|   | C306     | QCY31HK-182 | 1800pF 50V CERAMIC |       |
|   | C307     | QCY31HK-682 | 6800pF 50V CERAMIC |       |
|   | C308     | QCY31HK-682 | 6800pF 50V CERAMIC |       |
|   | C309     | QCY31HK-101 | 100pF 50V CERAMIC  |       |
|   | C310     | QCY31HK-101 | 100pF 50V CERAMIC  |       |
|   | C311     | QETC1HK-475 | 4.7μF 50V ELECTRO  |       |
|   | C312     | QETC1HK-475 | 4.7μF 50V ELECTRO  |       |
|   | C313     | QETC1AM-476 | 47μF 10V ELECTRO   |       |
|   | C314     | QETC1AM-476 | 47μF 10V ELECTRO   |       |

**Resistors**

| Δ | Item No. | Part Number | Description      | Areas |
|---|----------|-------------|------------------|-------|
|   |          |             |                  |       |
|   | R301     | QRD161J-222 | 2.2K 1/6W CARBON |       |
|   | R302     | QRD161J-222 | 2.2K 1/6W CARBON |       |
|   | R303     | QRD161J-473 | 47K 1/6W CARBON  |       |
|   | R304     | QRD161J-473 | 47K 1/6W CARBON  |       |
|   | R305     | QRD161J-751 | 750 1/6W CARBON  |       |
|   | R306     | QRD161J-751 | 750 1/6W CARBON  |       |
|   | R307     | QRD161J-393 | 39K 1/6W CARBON  |       |
|   | R308     | QRD161J-393 | 39K 1/6W CARBON  |       |
|   | R309     | QRD161J-475 | 470K 1/6W CARBON |       |
|   | R310     | QRD161J-475 | 470K 1/6W CARBON |       |
|   | R311     | QRD161J-104 | 100K 1/6W CARBON |       |
|   | R312     | QRD161J-104 | 100K 1/6W CARBON |       |

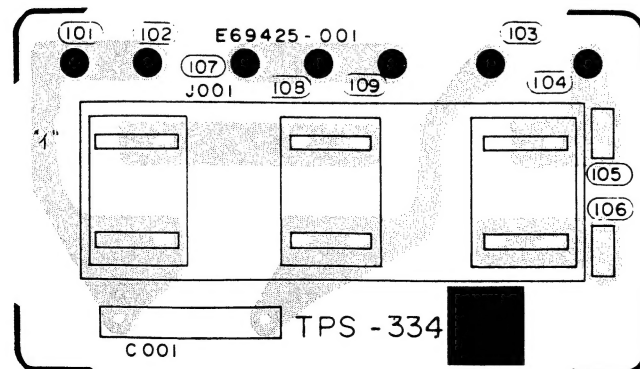
**Others**

| Δ | Item No. | Part Number  | Description   | Areas |
|---|----------|--------------|---------------|-------|
|   |          |              |               |       |
|   | P301     | EMV5101-008B | PLUG ASSY     |       |
|   |          | E11135-001   | CIRCUIT BOARD |       |

Δ: Safety Parts

**TPS-334 **A** AC Outlet PC Board Ass'y**

(Except for U.S.A., Canada, Europe, West Germany, Australia & U.K.)



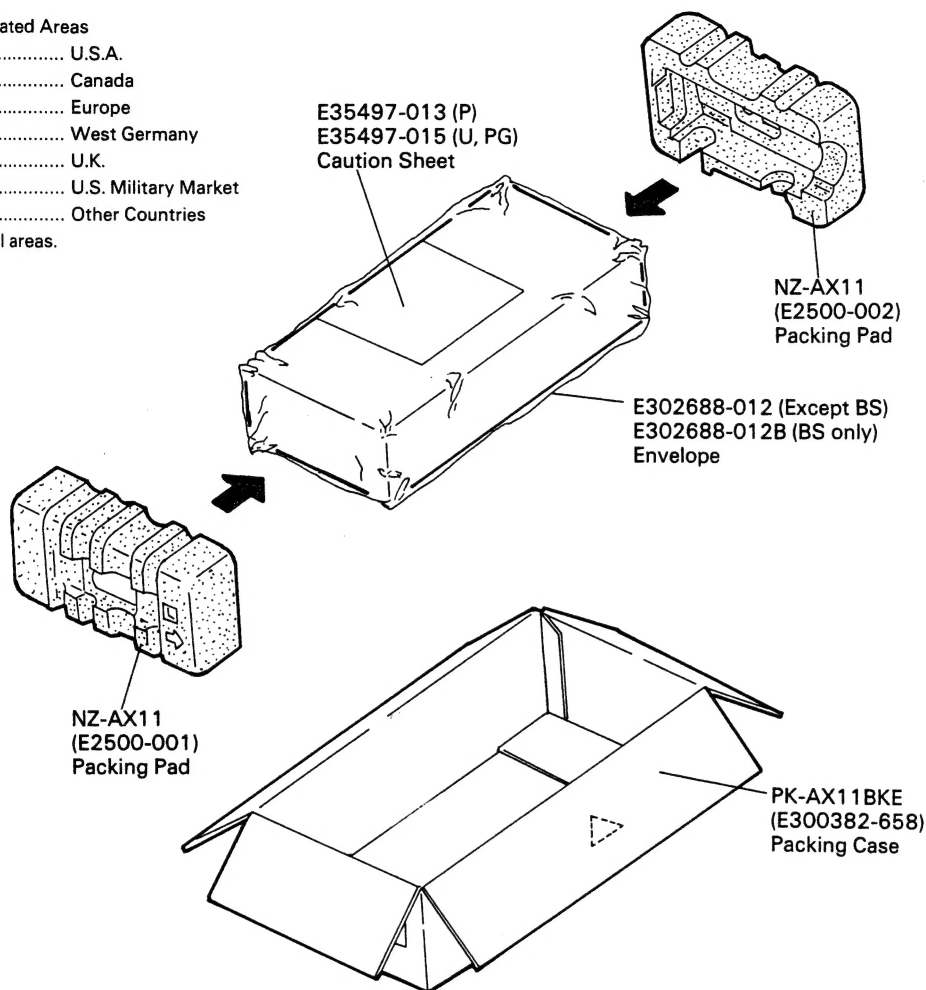
| Δ | Item No. | Part Number | Description   | Areas |
|---|----------|-------------|---------------|-------|
| Δ | C001     | QFZ9010-103 | M. MYLAR      |       |
| Δ |          | QMC0637-004 | 3P AC OUT LET |       |
|   |          | E43727-001  | TAB           |       |
|   |          | E65508-002  | TAB           |       |
|   |          | E69425-001  | CIRCUIT BOARD |       |

Δ: Safety Parts

# Packing Materials and Part Numbers

## The Marks for Designated Areas

|                               |                      |
|-------------------------------|----------------------|
| J.....                        | U.S.A.               |
| C.....                        | Canada               |
| E.....                        | Europe               |
| G.....                        | West Germany         |
| BS.....                       | U.K.                 |
| P, PG.....                    | U.S. Military Market |
| U.....                        | Other Countries      |
| No marks indicates all areas. |                      |



## Accessories List

| △      | Part Number  | Part Name   | Description | Areas                                 |
|--------|--|---|-------------|---------------------------------------|
|        | E30580-1311A<br>E30580-1311ABS<br>BT20048B<br>BT20025H<br>BT20064    | Instruction Book<br>Instruction Book<br>Warranty Card<br>Warranty Card<br>Warranty Card             |             | Except BS<br>BS<br>J, P, PG<br>C<br>G |
|        | BT20029C<br>BT20060<br>BT20044E<br>BT20046B<br>BT20071A              | Warranty Card<br>Warranty Card<br>Safety Instruction Sheet<br>Service Information<br>Service Center |             | A<br>BS<br>J<br>J, P, PG<br>C         |
| △<br>△ | BT20066<br>QZL1008-001<br>QMF51A2-1R6S<br>QMF51A2-R80S<br>E66416-003 | EEC Agency<br>FTZ Information Sheet<br>Fuse<br>Fuse<br>Envelope                                     |             | G, BS<br>G<br>U, PG<br>P<br>J         |
|        | E41202-2<br>E41202-2B<br>E6581-4                                     | Envelope<br>Envelope<br>Envelope  |             | Except BS<br>BS<br>U, P, PG           |

△ : Safety Parts